

## **Factors that Affect the Solubility of Ionic Substances**

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### *Ion Charge on Solubility*

Compounds of ions with small charges tend to be soluble. Compounds of ions with large charges tend to be insoluble. This is because increasing the charge increases the force that holds the ions together.

### *Ion Size on Solubility*

In general, the ions of metals tend to be smaller than their corresponding atoms. The ions of non-metals tend to be larger than their corresponding atoms.

Small ions bond more closely together than large ions so the bond between small ions is stronger than the bond between large ions with the same charge. So, for example, fluoride compounds are less soluble than chloride, bromide or iodide compounds.